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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,398	08/01/2000	David A. Selby	RSW9-2000-0080-US1	5649

7590 02/04/2003

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EXAMINER

BLECK, CAROLYN M

ART UNIT	PAPER NUMBER
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3626

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,398

Applicant(s)

SELBY, DAVID A.

Examiner

Carolyn M Bleck

Art Unit

3626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Notice to Applicant

1. This communication is in response to the application filed 1 August 2000. An IDS statement filed 1 August 2000 has been entered and considered. Claims 1-26 are pending.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because: the use of legal phraseology at line 1 of the abstract "The present invention". Correction is requested. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis for this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example), and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

(A) In the present case, claim 1 only recites an abstract idea. The recited steps of merely gathering past and current reservation information relating to group reservations, comparing the past and current information, calculating the materialization level of the current group reservation based on the comparison, and outputting the materialization forecast result do not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil paper. These steps only constitute an idea of how to forecast materialization of a group reservation.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention calculates the materialization level of a current group reservation (i.e., repeatable) used in materialization forecasting of group reservations (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claim 1 is deemed to be directed to non-statutory subject matter.

(B) Claims 2-13 incorporate the deficiencies of claim 1 through dependency, and are therefore rejected as well.

6. Claims 14-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed toward non-statutory subject matter. Under the statute, the claimed invention must fall into one of the four recognized statutory classes on invention, namely, a process (or method); a machine (or system); an article of manufacture; or a composition of matter.

(A) Claims 14-26 appear to be directed toward computer-readable code stored on media. However, it is unclear as to which recognized statutory class of invention the computer-readable code stored on media of claim 14 is directed. In particular, computer-readable code stored on media is not a process or method as it lacks a series

of steps. Computer-readable code stored on media is not a machine or system as there is no specific recitation of machine or system components. Computer-readable code stored on media is not recognized as a composition of matter. Computer-readable code stored on media, per se, is merely a collection of data (i.e., computer code).

Under the guidance of recent case law, the requirements of 35 U.S.C. 101 are met when “the practical application of the abstract idea produces a useful, concrete, and tangible result” (State Street Bank & Trust Co. vs. Signature Financial Group, Inc., 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998)). However, the claims, as presently recited, do not appear to have a tangible result. Data structures or computer programs, in general, that are not claimed as embodied in computer-readable media are descriptive material per se, and are not statutory because they are not capable of causing functional change in a computer.

In particular, it is unclear whether the computer-readable code, as recited in claims 14-26, is embodied on a specific readable medium within the technological arts (and thus tangible), since it appears the computer-readable code is not limited to any particular structural element. Such claimed code does not define any structural and functional interrelationships between the code and other claimed elements, such as the media, a first, second, third, fourth, and fifth subprocesses, which permit the purpose of the code to be realized (see MPEP section 2106 section IV, B, 1, (a) for further guidance). Simply stated, how is the claimed computer-readable code tangibly embodied within a system and how is that embodiment structurally related to a system?

In light of the above, it is respectfully submitted that the claimed invention, although useful and concrete, is not tangible, and thus fails to recite the practical application of an abstract idea to satisfy the requirements of 35 U.S.C. 101.

(B) Claims 14-26 incorporate the deficiencies of claim 13 through dependency, and are therefore rejected as well.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung (4,775,936).

(A) As per claims 1-2, Jung discloses a method for determining a recommended overbooking level for a scarce resource such as seats on a vehicle, e.g. an aircraft comprising:

(a) obtaining through an information receiving means and storing for later use, historical traffic flow information including the number of groups booked on a vehicle and the number of groups actually transported on a vehicle (col. 1 line 65 to col. 2 line 27 and col. 3 lines 27-53);

(b) receiving passenger reservations through a booking means, wherein the number of passenger that can be booked on the vehicle is set at an optimal level (col. 10 lines 25-29);

(c) determining an optimal booking level using an overbooking program calculated by taking the average of three other booking levels:

- The first is a demand-based booking level which is based on average "no show" factors. The demand-based overbooking level is calculated such that the vehicle would always be full given average booking statistics;
- The second is an oversale-based booking level which is based on average booking statistics and a standard deviation value which takes predictability into account. The oversale-based booking level is calculated such that the capacity of the vehicle will be oversold a predetermined percentage of the time;
- The final booking level is a prediction-based booking level. This booking level predicts the optimal booking level for the next flight by averaging the demand-based and oversale-based booking levels and determining the linear relationship of the averages. A weighting factor is also applied to the prediction-based booking level. The weighting factor is a function of the mathematical credibility (i.e. the standard error of estimate) of the third booking level. This booking level is found by the following equation $PBBL = M(N+1) + B$, wherein $N+1$ is the next flight to depart;

- The recommended booking level is then determined by averaging the demand-based booking level, the oversale-based booking level and the weighted prediction-based booking level (col. 2 lines 28-52 and col. 7 lines 14-30) and;
- (d) displaying the recommended booking level in an overbooking report (col. 8 lines 36-40).

It is respectfully submitted that the recommended booking level is a form of a materialization level as Jung discloses the recommended booking level as a percentage, wherein the level is between 101%-200% for flights which "close" i.e., the flight overbooks. Further, the booking level includes the demand-based booking level which in practical terms is the actual demand for a seat on an aircraft based on historical data including group reservation data (i.e., the materialization of a group reservation) (col. 5 lines 54-68). Although Jung does not include outputting the demand-based booking level (i.e., the materialization level), it is respectfully submitted that the skilled artisan would have found it an obvious modification to Jung's method to output this level with the motivation of quickly adjusting computer overbooking levels based on calculations (Jung; col. 1 lines 58-63).

(B) Claims 14-15 repeat the subject matter of method claims 1-2, respectively, as computer-readable code stored on media rather than as a series of steps. As the underlying processes of claims 1-2 have been shown to be fully disclosed by the teachings of Jung in the above rejections of claims 1-2, it is readily apparent that the processing means and computer programs (Jung; col. 3 lines 18-28 and col. 3 line 64 to

col. 4 line 8) disclosed by Jung provide the means to carry out these steps. As such these limitations are rejected for the same reasons given above for method claims 1-2, and incorporated herein.

9. Claims 3-13 and 16-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung (4,775,936) as applied to claims 1 and 14 above, and further in view of Bowen et al. (5,648,900).

(A) As per claims 3, 5-6, 8-10, and 12, the relevant teachings of Jung are as discussed in the rejections above, and incorporated herein.

Jung fails to expressly disclose past reservation information including POS (Point-of-Sale) information pertaining to past and current reservations and the demographic information about group coordinators who made past group reservations. Bowen discloses controlling and monitoring of group travel related services including storing in a storage unit information related to a historical and current group control record comprising information such as the name and ID of the owner and organizer of group travel, the group name, the wholesaler's address, the phone number of the owner, the inventory items obtained from a master inventory, the date contained on the inventory item on which unused inventory must be returned to a provider, an airline record locator, departure and arrival cities, the dates of travel (col. 3 lines 25 to col. 4 line 63, col. 8 lines 18-30, col. 10 lines 32-60, col. 11 line 63 to col. 12 line 22, col. 14 line 16 to col. 17 line 25, and col. 20 lines 3-40).

At the time the invention was made, the skilled artisan would have found it an obvious modification to include the aforementioned components of Bowen within the method of Jung with the motivation of enabling airlines and other parties to more easily track group reservations (Bowen; col. 1 lines 50-55) and thus ensuring advance bookings are at a level which maximizes profits while at the same time minimizing dissatisfaction with supply (Jung; Abstract).

(B) As per claims 4 and 7, Jung discloses obtaining through an information receiving means and storing for later use, historical traffic flow information including the number of groups booked on a vehicle and the number of groups actually transported on a vehicle (col. 1 line 65 to col. 2 line 27 and col. 3 lines 27-53) and the next flights departing (col. 2 lines 28-52 and col. 7 lines 14-30).

(C) As per claims 11 and 13, Jung discloses historical information related to the capacity of each passenger airplane in the fleet (col. 3 lines 28-48) and information on the next flight to depart including the capacity of the airplane (col. 3 lines 28-48 and col. 7 lines 20-25).

(D) Claims 16-26 repeat the subject matter of method claims 16-26, respectively, as computer-readable code stored on media rather than as a series of steps. As the underlying processes of claims 16-26 have been shown to be fully disclosed by the teachings of Jung in the above rejections of claims 16-26, it is readily apparent that the

processing means and computer programs (Jung; col. 3 lines 18-28 and col. 3 line 64 to col. 4 line 8) disclosed by Jung provide the means to carry out these steps. As such these limitations are rejected for the same reasons given above for method claims 16-26, and incorporated herein.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. The cited but not applied prior art teaches an operational system for travel agents providing visual access to travel-related information (4,922,439), a computer based system for processing travel request directed to a specific venue (5,237,499), a method and apparatus for providing travel destination information (5,422,809), a method and apparatus for controlling reservations for goods (6,041,305), and an active reservation system allowing an event vendor to maintain a stand-alone inventory control system (6,477,503).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Bleck whose telephone number is (703) 305-3981. The Examiner can normally be reached on Monday-Thursday, 8:00am – 5:30pm, and from 8:30am – 5:00pm on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached at (703) 305-9588.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 306-1113.

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

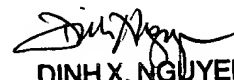
(703) 305-7687	[Official communications; including After Final communications labeled "Box AF"]
(703) 746-8374	[Informal/ Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand-delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th Floor (Receptionist).

CB

CB

January 30, 2003


DINH X. NGUYEN
PRIMARY EXAMINER